MaaT Pharma

Enhancing Survival through Microbiome Innovation

February 24

CORPORATE
PRESENTATION

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MaaT Pharma: A late-stage clinical biotech, leading the way in Microbiome therapies in oncology

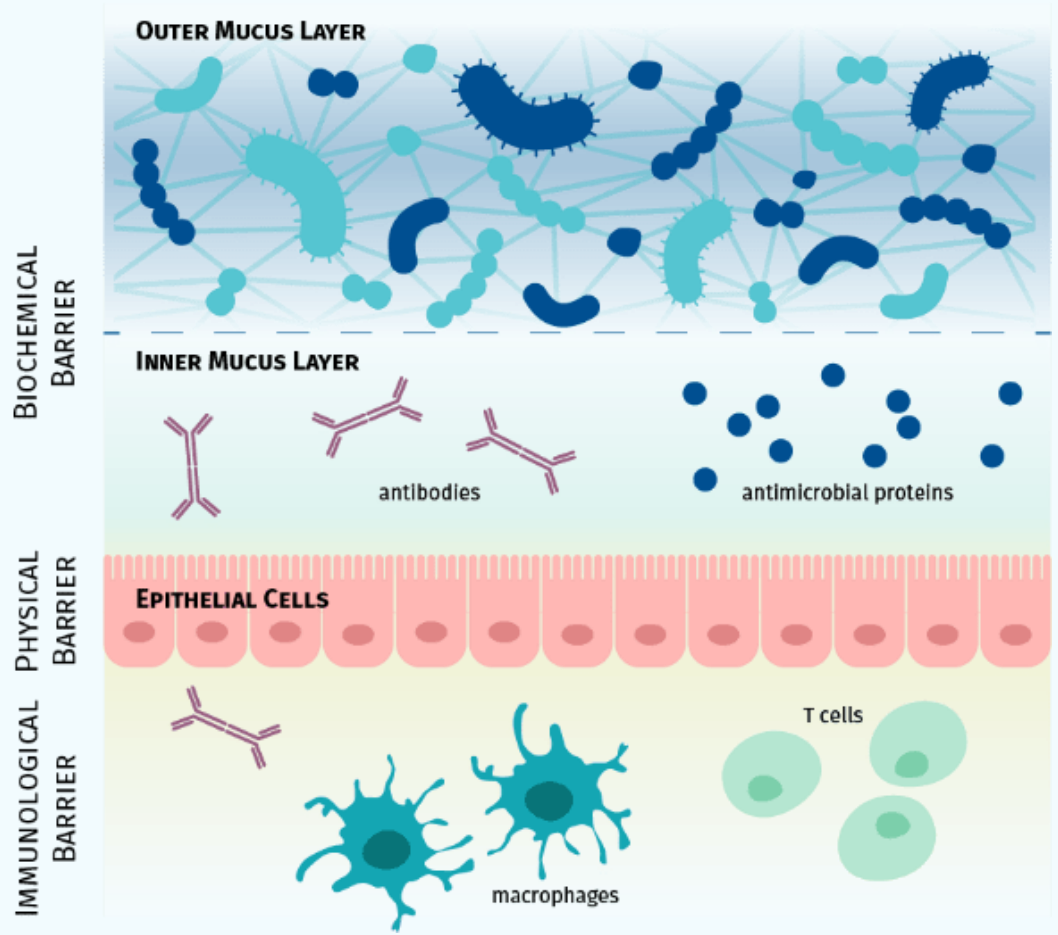
LEADER	Listed on **Euronext (MAAT.PA)** global leader in the development of **Microbiome Ecosystem Therapies in oncology to enhance patient survival**
EXCELLENCE	Founded in **2014** | First Patient Treated in **2016** | **Pooling Pioneers** | First **FDA-Approved** Pooled Microbiota Trial | **7 Years Seed to Phase 3** | Factory Built in **Record 12 Months**
AI ENGINE	**Proprietary gutPrint® metagenomics research engine** driving product candidate generation by leveraging the data generated from MET-N products, to develop full synthetic microbiome MET-C programs using AI tools
MET-N	**Lead asset MaaT013 in Phase 3, available through Early Access Program** in aGvHD with results in 2024 and expected commercial launch in 2026 | **Second generation asset MaaT033** pooled capsule currently in **Phase 2b**
MET-C	**Ground-breaking co-culture donor independent MET-C platform** with first asset **MaaT034**, a full synthetic microbiome capsule **progressing towards IND in IO**
cGMP	**Largest European cGMP production facilities for microbiome** supporting commercial endeavors for MET-N products and clinical production for MET-C products
FINANCE	**Revenue** from **EAP of MaaT013 in aGVHD of 1.8m€ for the first three quarters of 2023** **Cash position of 31,7m€** with a **horizon** into the **second quarter of 2024**

Host – Microbiota Interactions are Critical for a Functional Immune System

A rich and diversified gut ecosystem actively modulates the immune system functionality

01 **A diversified microbiome** contributes to the **education and modulation of our immune system** throughout life

02 Bacterial **richness** and mucus layer prevent colonization by pathogens and improve gut barrier



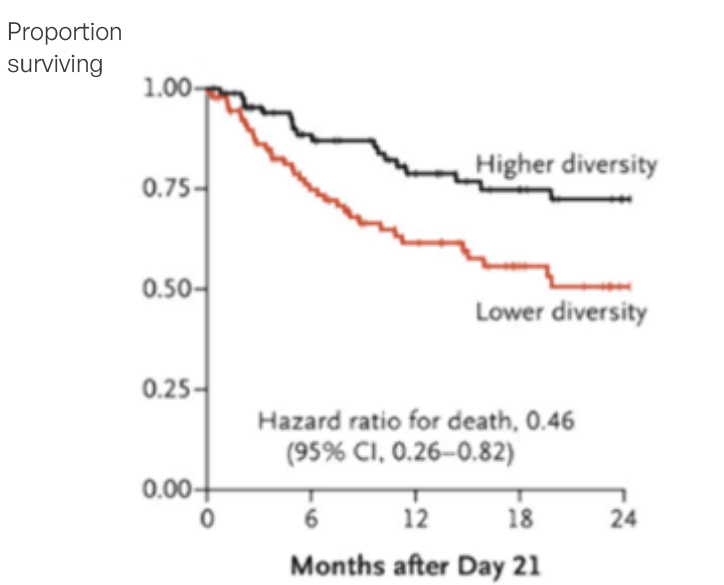
Cross-section of a healthy gut

80% Cellular host defense localized in the gut

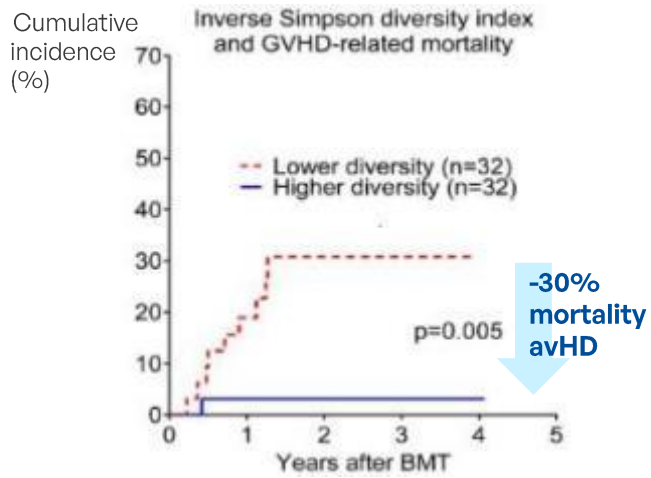
Higher gut microbiome diversity is associated with increased survival in oncology

Liquid Tumors

Higher survival rate in patients receiving allo-HSCT *1



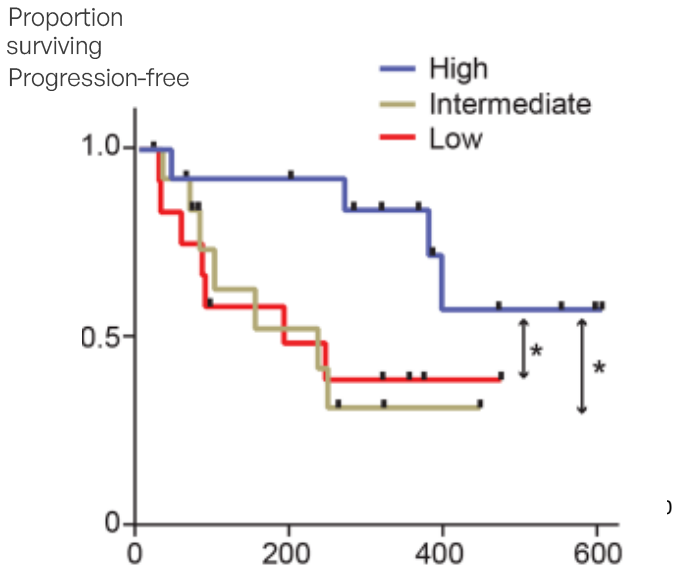
Lower incidence and lower mortality from aGvHD *2



MaaT Pharma MET
Inverse Simpson (mean): **24**

Solid Tumors

Higher response rate to ICI* in patients with metastatic melanoma 3



* allo-HSCT: allogeneic hematopoietic stem cell transplantation; aGvHD: acute Graft-vs-host-Disease; ICI: Immune Checkpoint Inhibitors

[1] Peled, J.U. & al N Engl J Med 2020;382:822-34; [2] Ghani, 2021 ; Jenq RR. et al, Biol Blood Marrow Transplant 21 (2015) 1373e1383; Pamer, Blood, 2014 ; [3] Gopalakrishnan et al., Science, 2017, see also Routy et al, Science, 2018 ; Vetizou et al Science 2015;

A Step-by-Step Increasing Value Creation Strategy Backed by Leading Capabilities in Microbiome Drug Candidate Production

gut Print

Driving near-term value with the donor-derived MET-N platform

MaaT013

MaaT033

POOLING

MaaT013 MaaT033

Pooled microbiota → Maximized richness → Standardized (450 OTU ± 3%)

Progressing next-generation co-cultured scalable MET-C platform

MaaT034

MaaT03X

Original microbial ecosystem

Master bank

Working Bank

Unlimited Co-Culture Scaling

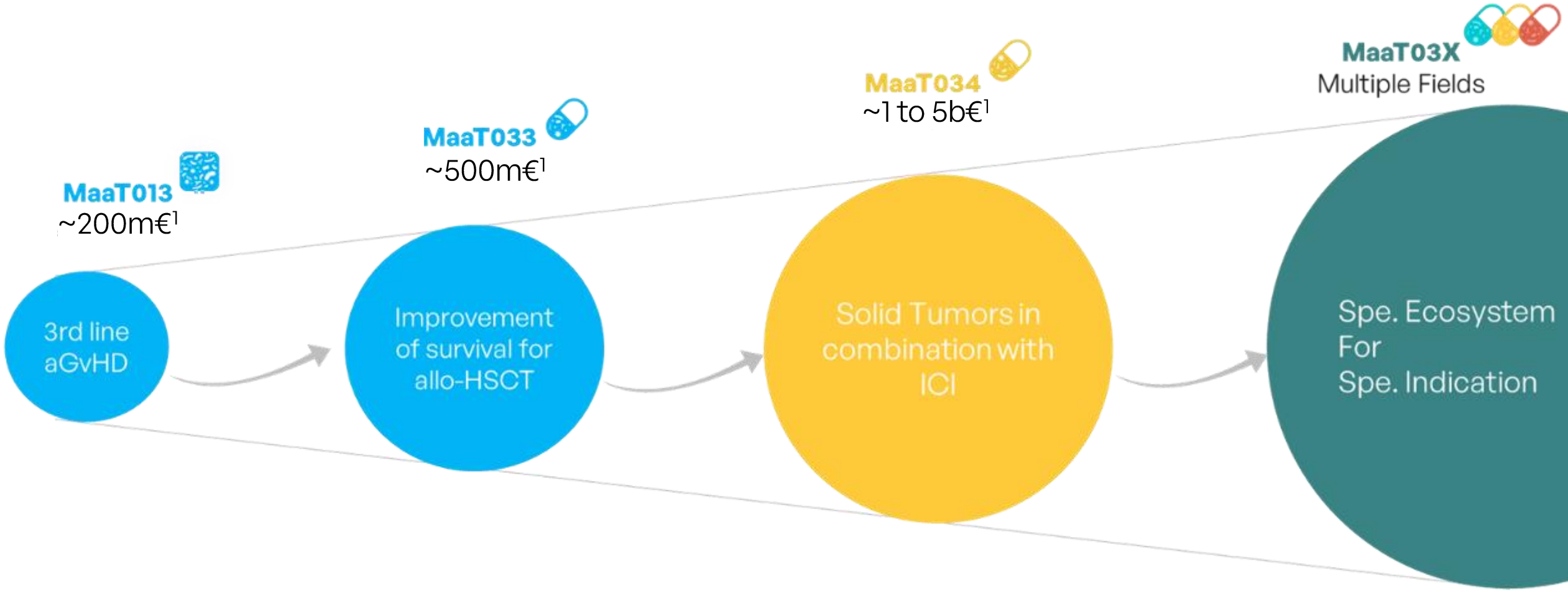
Multistep co-culture cGMP proprietary process

MET-C product

Leading capabilities in microbiome drug production

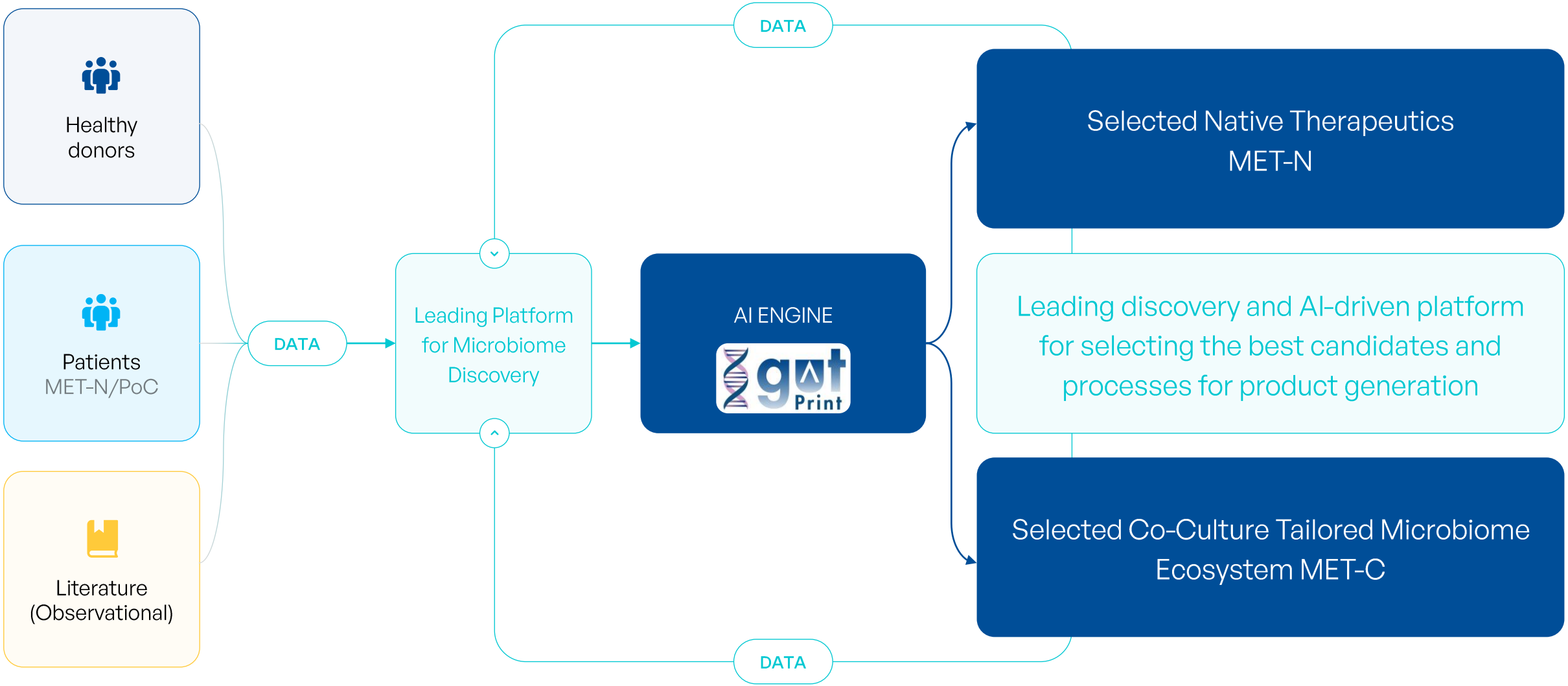
~10 000 treatable patients per year

Rapid build up to target blockbuster markets



[1]*PYS EU5, US*

Cutting-edge Research Engine Powered by Metagenomics and AI-driven Candidate Selections



A robust and balanced pipeline allowing for regular milestones

Platform	Program	Indication	Preclinical	Phase I	Phase II	Phase III	Upcoming milestone
Short Term Milestones	MaaT013	aGvHD ODD EMA/FDA	ARES →				GI-ORR mid-24
		IO PoC Melanoma	PICASSO (IST) →				Results H2.24/ H1.25
MET-N	MaaT033	HSCT ODD EMA	PHOEBUS →				Safety Interim H2.24
		ALS	IASO →				Results H2.24
MET-C	MaaT034 →	IO	PrClin →				Targeting FIH 2025
	MaaT03X →	Multiple	R&D →				Candidates selection

aGvHD: acute Graft versus Host Disease ; IO: Immuno-Oncology ; PoC: Proof of Concept ; HSCT: Hematopoietic Stem Cell Transplantation ; ALS: Amyotrophic Lateral Sclerosis ; IST: Investigator Sponsored Trial

Driving near-term value with the donor-derived **MET-N** platform

MET-N

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Microbiome Restoration with MaaT013: A Maximum-Density Product for Fast Engraftment in Acute Situations

- **Curative approach**
- MaaT013 has received **Orphan Drug Designation** from **FDA and EMA**
- **GI-ORR** in **mid-2024**

01	Characteristics	**Pooled microbiota**: high-richness, high-diversity, full ecosystem, **Microbiome Ecosystem Therapy containing Butycore®**
02	Administration	**3 doses** (enema bag)
03	Available Clinical Data	**HERACLES Phase 2** Clinical Trial, N=24, 2L **Early Access Program (EAP),** data from N=111, 3L-6L, program still ongoing **> 200** patients treated to date
04	Efficacy evaluation in EAP	**28-Days GI-ORR**: 54% **12-months OS**: 67% in patients responding to treatment
05	Current indication	**Gastrointestinal acute Graft-versus-Host Disease** (GI-aGvHD)

MaaT013 Aims to Enhance Survival in Patients with Steroid & Ruxolitinib Resistant aGvHD through Gut Microbiota Restoration

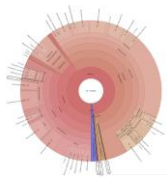
Intestinal dysbiosis is associated with higher mortality in hemato-oncology [1]

Chemotherapy Antibiotics

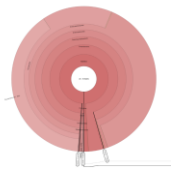
→ Irradiation

→ Immunosuppressors

Patients with liquid tumors



Before



After

Allogenic Hematopoietic Stem Cell Transplantation (allo-HSCT)

~ 22 000

patients/yr [2]

50%

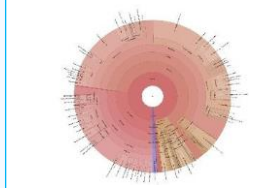
Loss of diversity (dysbiosis) → **aGvHD**

→ Infections

→ Complications

Maat013 3L Treatment

Steroid & Ruxolitinib Resistant



~ 3 000 patients/yr, no SoC in **3L**

~ 10 000 aGvHD patients/yr [3]

~ 30% steroid & ruxolitinib-resistant [4]

~ 80% 2-month mortality [4]

[1] Peled et al, NEJM 2020 ; [2]EU5 + US : (~ 20 500 primary procedures with an additional 7%-10% recurring), [3]EU5 + US, [4]REACH1 study ; SoC: Standard of Care

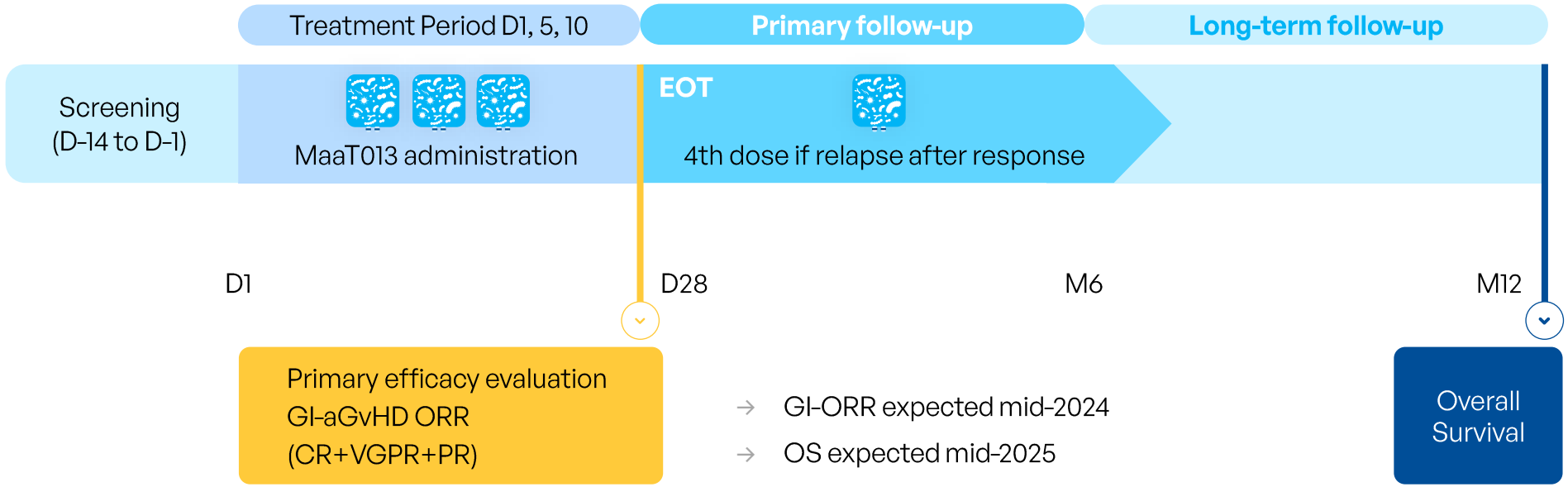
ARES, a pivotal Phase 3 trial to treat aGvHD in 3rd line showing *"high efficacy and low toxicity"* as concluded by the DSMB

ARES

Patients with SR-GI-aGvHD

Inclusion criteria

- Refractory or intolerant to 2L ruxolitinib
- Refractory to 1L corticosteroids
- aGvHD with GI symptoms
- Allo-HSCT
- Age > 18



D: Day, M: Month, EOT: End of treatment ; SR-GI-aGvHD: Steroid-refractory gastro-intestinal acute Graft-versus-Host Disease ; GI-ORR: Gastrointestinal Overall Response Rate; CR: Complete Response; VGPR: Very Good Partial Response; PR: Partial Response

* DSMB review on 30 patients on October 2023

DSMB* main conclusions:
→Good safety profile
→ORR higher than pre-defined protocol

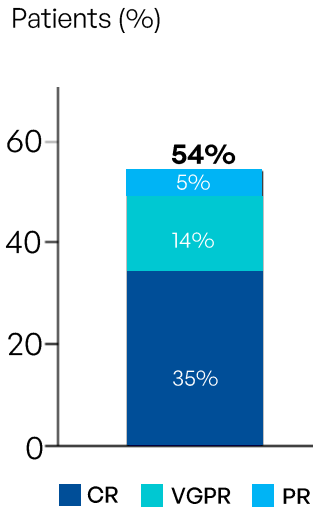
Commercial launch date anticipated in 2026

Market potential:
~115m€ EU & 105m$ US
No Competitor in 3L

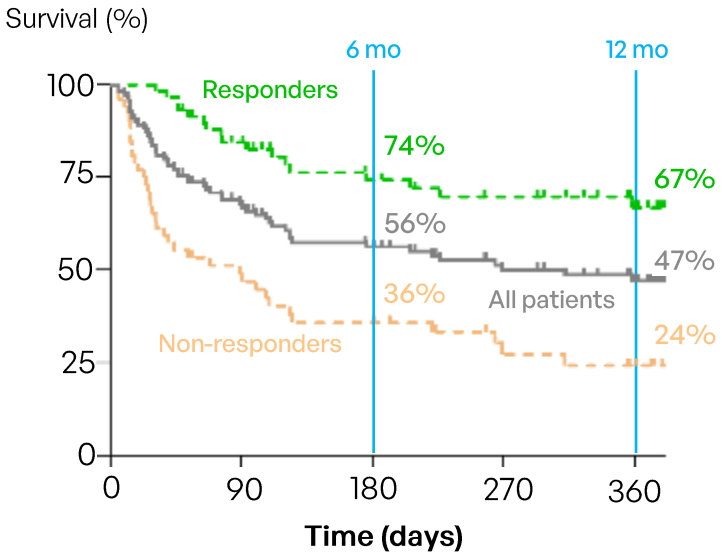
Early Access Program (EAP) confirms impact on survival when primary endpoint is achieved

Global EAP populations

GI-ORR



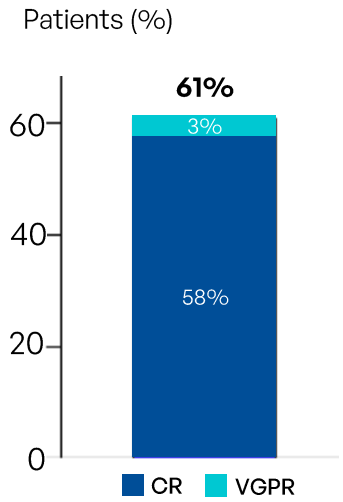
Overall Survival Rate



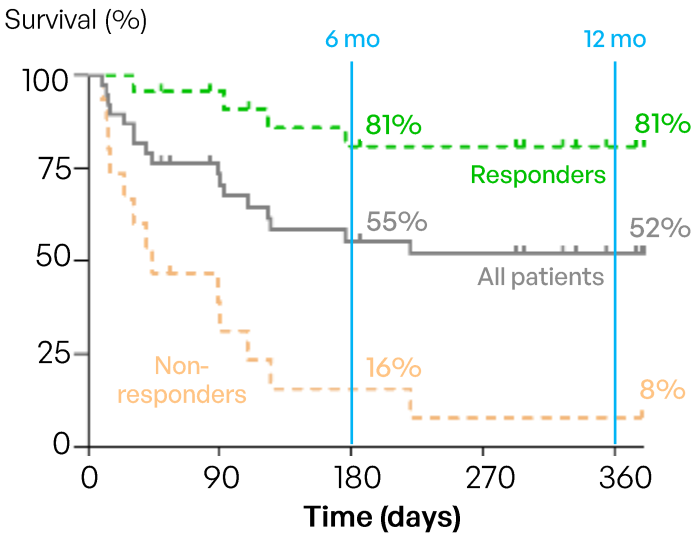
- → N=111, GI-aGVHD : 49% grade III, 42% grade IV, up to 6 lines of prior treatments (median 3) 94/111 received ruxolitinib
- → Good tolerability and safety profile in a fragile population

ARES-like populations from EAP

GI-ORR



Overall Survival Rate



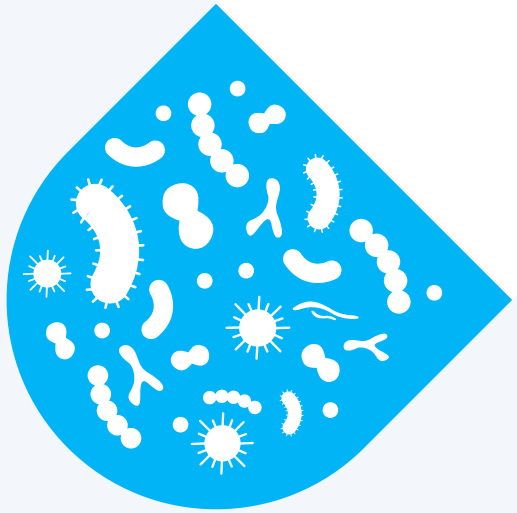
- → N=38 – ARES-like population ruxolitinib-refractory in 2nd line, MaaT013 given in 3rd line
- → Clinical response to MaaT013 translates to an increased overall survival[1]

Data update and long-term follow-up to be presented at EBMT 2024

Data presented at ASH 2023

[1] OS expected in ruxolitinib-resistant patients is 22% at 2 months (REACH1 study)

Ensuring Optimal Microbiota Function: MaaT033 - The oral ecosystem microbiome capsule for adjunctive and maintenance therapy

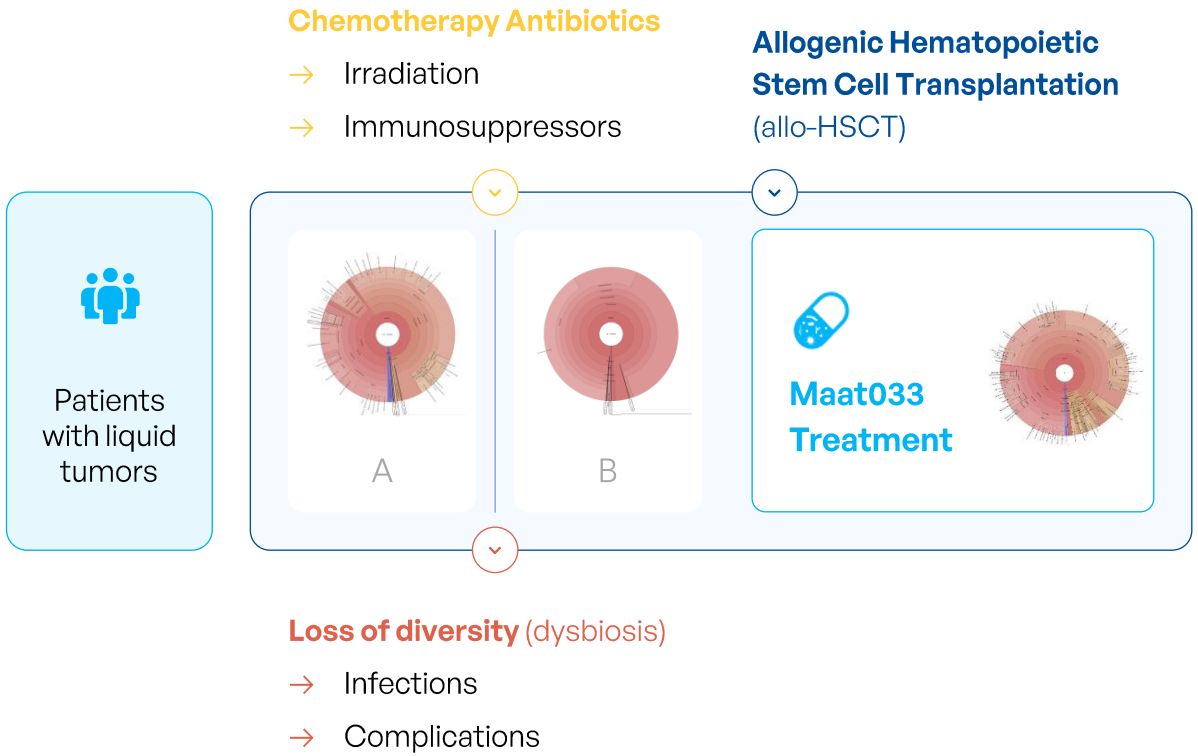


- **Adjunctive and Maintenance**
- MaaT033 has **received Orphan Drug** from the **EMA**

01	Characteristics	**Pooled microbiota** : high-richness, high-diversity, full ecosystem, **Microbiome Ecosystem Therapy containing Butycore®**
02	Administration	**Oral** (a lyophilized capsule)
03	Clinical Program	**Ongoing Phase 2b trial PHOEBUS** in allo-HSCT patients **Phase 1b trial IASO** ongoing in ALS
04	Current indication	**Improving survival of allo-HSCT patients** **Slowing down disease progression in ALS**

MaaT033 to ensure optimal gut microbiota to improve survival in patients receiving allo-HSCT

Intestinal dysbiosis is associated with higher mortality in hemato-oncology[1]



[1] Peled et al., NEJM 2020

United States

c. **7,800**

Primary procedures

EU 5

c. **9,600**

Primary procedures

Japan

c. **3,000**

Primary procedures

Additional **7% - 10%** Recurrent procedures

Approximately **22,500** procedures / year

EBMT aHSCT Survey, 2017 (published in Bone Marro Transplantation (2019) 54:1575 – 1584), Global Data 2020

Phase 2b PHOEBUS designed to establish MaaT033 as an adjunctive treatment for patients receiving allo-HSCT

PHOEBUS

- 387 patients in a **randomized, double-blind, placebo-controlled international** study
- At least **56 sites** targeted globally
- Primary endpoint: **efficacy** of MaaT033 in **improving overall survival at 12 months**
- Study started in **November 2023**, results are expected in **2026**

387
patients dosed pre- and post- allo-HSCT

[1] Expansion to US sites subject to discussion with the FDA

Ongoing Phase 2b PHOEBUS

Safety Interim analysis on 60 patients in H2 2024

OS primary endpoint expected in 2026

~ 11k patients per year

MaaT033 to slow down Amyotrophic Lateral Sclerosis progression

Amyotrophic Lateral Sclerosis

- Could affect up to 60,000 patients in US & EU by 2040[1]
- Paralysis and death 3 to 5 years after diagnostic[2]
- Currently no curative treatment and few symptomatic treatments

Study

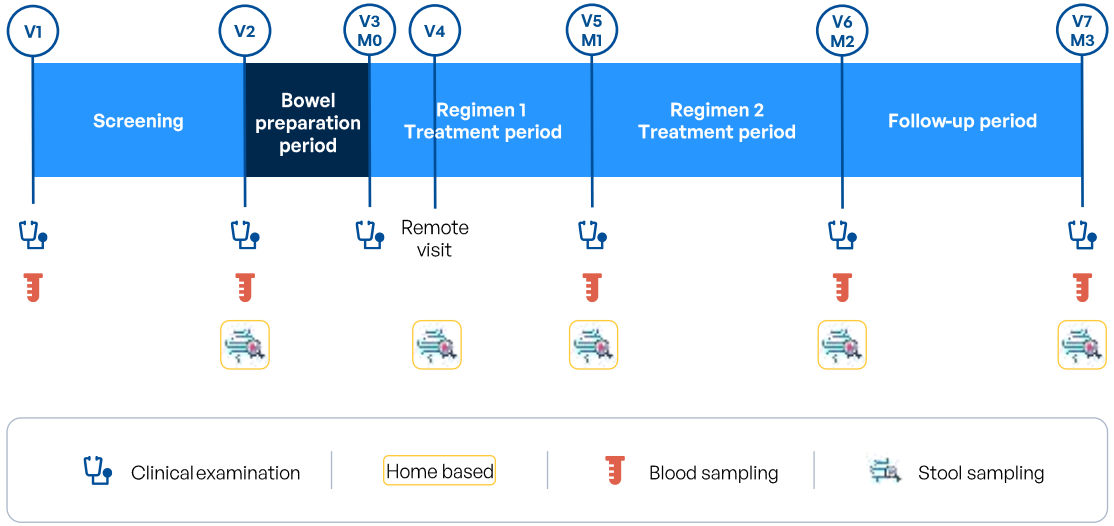
- Up to **15 patients** in a **pilot, open-label, Phase 1b** study **in France**
- **Key study endpoints**: assess safety and tolerability of MaaT033 and gut microbiota composition evolution
- Study started in **2023**
- **Positive DSMB** in **Feb. 2024:**
  - Trial to proceed as planned without modifications
  - Good safety profile and generally well tolerated
- **Results** expected in **H2 2024**

Study developed with: FILSLAN, act4 ALS-MND

In collaboration with:

Rationale for Exploratory Utilization of MaaT033 in ALS

- Microbiota-Gut-Brain axis has the potential to become the new standard to treat neurodegenerative diseases, including ALS
- MaaT033 safety profile and oral administration is suitable for ALS
- Strong support from medical community & patients
- A cost-effective way of testing neurodegenerative field in an indication with high medical need



[1] Arthur, K., Calvo, A., Price, T. et al. Projected increase in amyotrophic lateral sclerosis from 2015 to 2040. Nat Commun 7, 12408 (2016). https://doi.org/10.1038/ncomms12408

[2] https://tousensellescontrelasla.fr/la-sla-cest-quoi/

Progressing next-generation co-cultured donor independent scalable **MET-C** platform

MET-C

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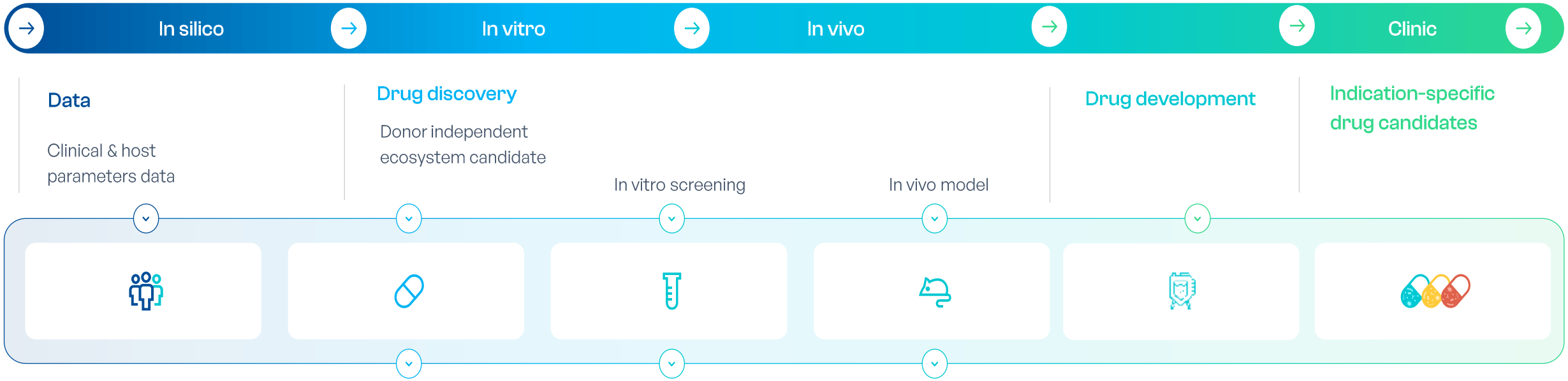
MET-C product generation is driven by predictive AI and by state-of-the-art proprietary in vitro and in vivo validation



gutPrint

HIT Products

- gutPrint® analysis
- Other information to be determined (Work ongoing to determine draft key features)

gutPrint

LEAD Products

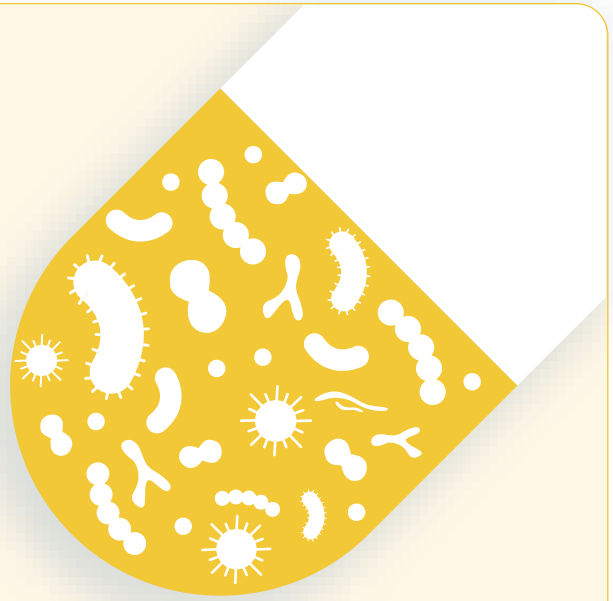
- Activity in in vitro models (local and distal models)

SITC 2023 San Diego Nov. 1–5

Candidate Products

- Activity in 2 different mouse models
- Product characterization
- Safety and Dose assessment

Boosting Cancer Therapy: MaaT034 – Ground-breaking, Donor-Independent, Full Ecosystem Synthetic Microbiota to Optimize Immune Checkpoint Inhibitor Treatment

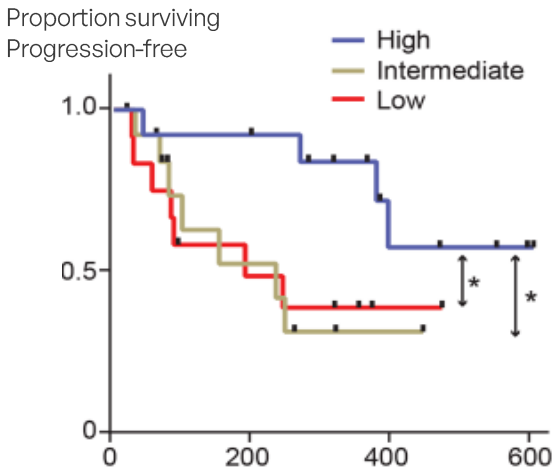


- First clinical batches manufactured expected in H2.2024
- First in Human expected in 2025

01	Characteristics	**High richness, co-cultured, donor independant** **Easily scalable full ecosystem microbiome**
02	Administration	**Oral** (a lyophilized capsule)
03	Development Program	**Pre-clinical, advancing toward IND** Preclinical data presented at **SITC 2023**
04	Current indication	**Solid Tumors**: combo with Immune-Checkpoint Inhibitor

A diverse gut microbiome increases survival in patients receiving Immune Checkpoint Inhibitors (ICI)

Higher microbiome richness
→ better response rate to ICI in patients with metastatic melanoma

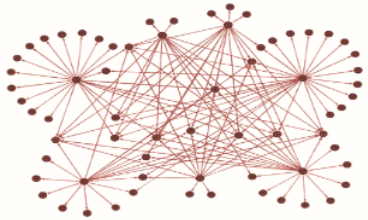


Gopalakrishnan et al, Science 2018

FMT from ICI responders to ICI non-responding patients with metastatic melanoma

6/15
Non-responders
→ Responders
(Davar et al, 2021)

3/10
Non-responders
→ Responders
(Baruch et al, 2021)



[1]Gopalakrishnan et al, Science 2018, [2]Matson, et al Science 2018; [3]Routy et al, Science 2017; [4]Mc Culloch et al, Nat Med 2022; [5]. Baruch et al, Science 2021; [6]. Davar et al, Science 2021; [7]. Routy et al, Nature Med. 2023

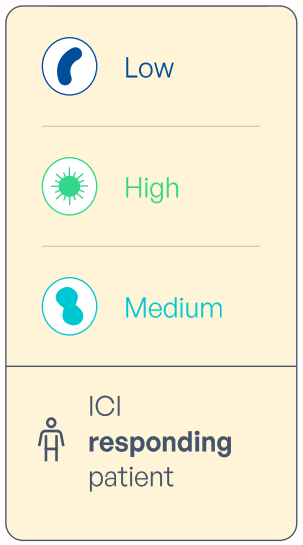
→ **Immune check-point inhibitors (ICI)** therapies have established themselves as key therapeutic options in solid tumors, but ORR may be as low as 20% in some indications.

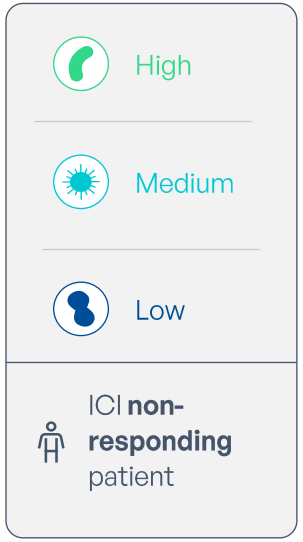
→ **Richness, Diversity and composition of gut microbiome drive survival and ICI toxicity** in patients receiving ICI[1,2,3,4]

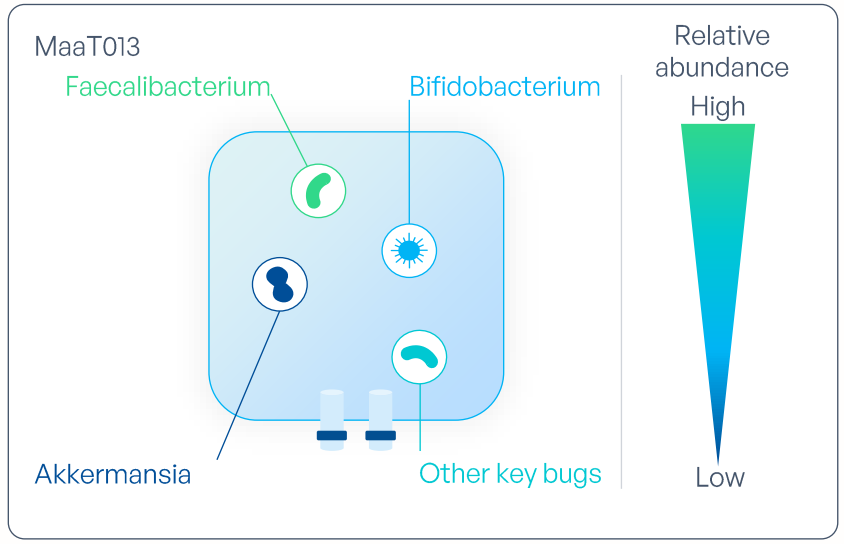
→ **FMT from ICI responders (R) could induce response in metastatic melanoma non-responders (NR)** [5,6,7]

Leveraging the gut microbiome richness, diversity and its key functional networks may be a game-changer in immuno-oncology in the coming years

Proof of concept study with MaaT013 to improve ICI response



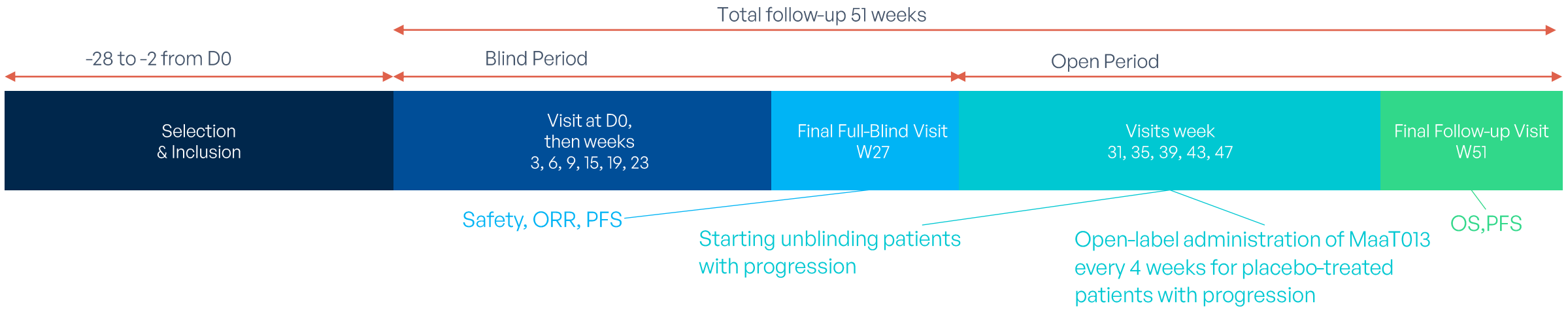




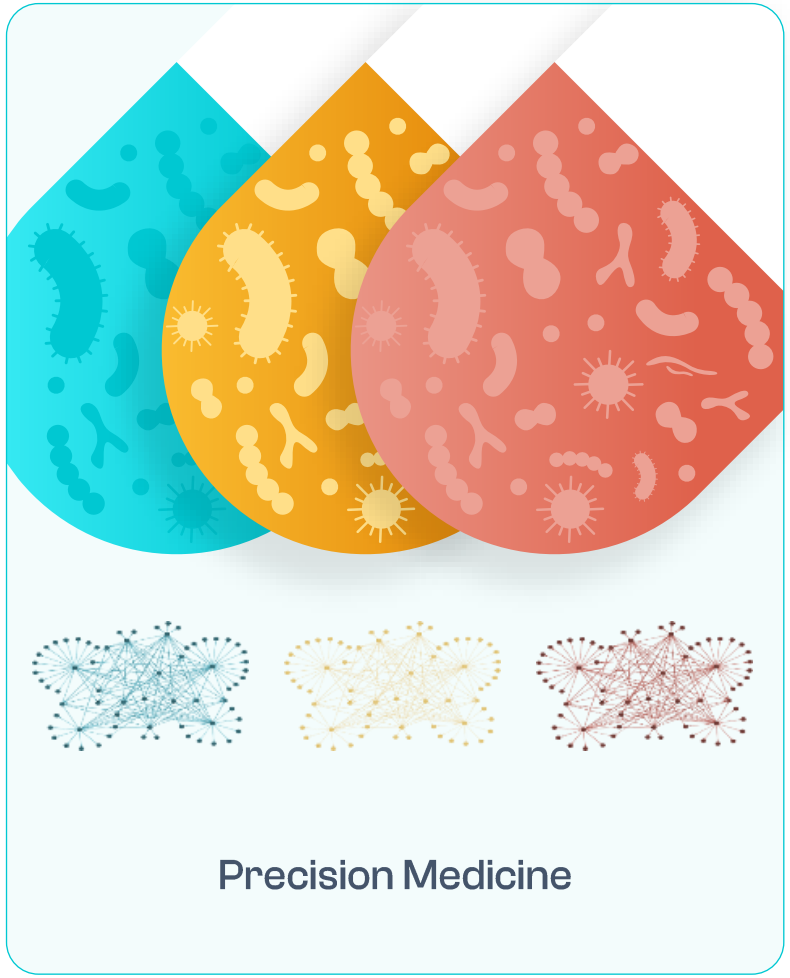
Ongoing Phase 2a PICASSO trial in collaboration with Assistance Publique - Hôpitaux de Paris (sponsor)

- RCT [MaaT013 + ICI] vs. [Placebo + ICI] in 70 metastatic melanoma patients
- Key study endpoints after 23 weeks of treatment:
  - MaaT013 safety profile vs placebo as add-on treatment to Ipilimumab + Nivolumab
  - MaaT013 best-overall response rate vs placebo as add-on treatment to Ipilimumab + Nivolumab
- Data expected H2.24/H1.25

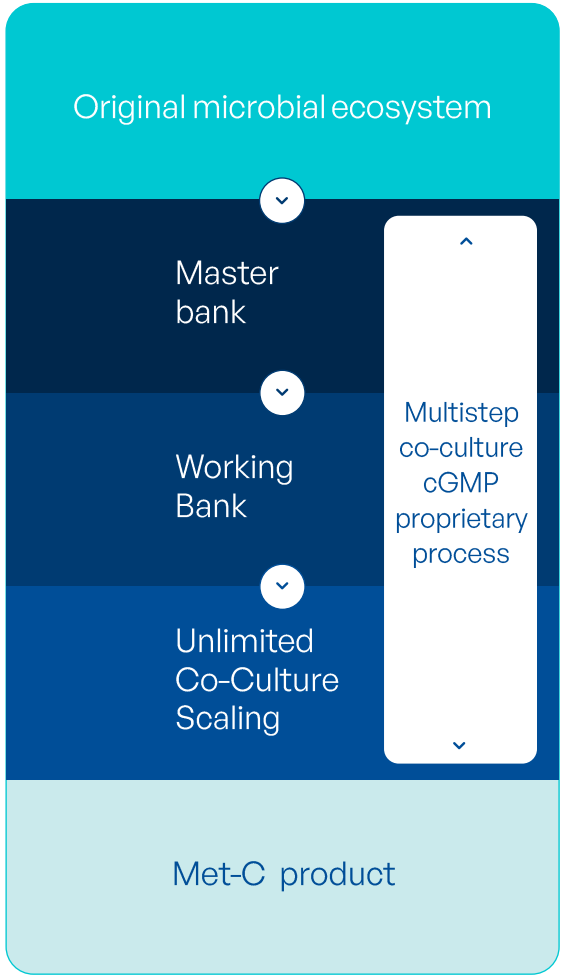
PICASSO RCT design



Envisioning the Future: MaaT03X –Tailor-made AI-driven Super-Competent Synthetic Microbiota for specific indications



01	Characteristics	**High richness, co-cultured,** **Super-competent full ecosystem microbiome**
02	Administration	**Oral** (a lyophilized capsule)
03	Development Program	**Indication-specific tailored microbiota** **Next steps to be announced**
04	Current indication	**Multiple blockbuster indications in multiple areas**



End-to-End in-house cGMP manufacturing

All MET

CORPORATE
PRESENTATION

Building Europe's largest specialized cGMP manufacturing facility for Microbiome Ecosystem Therapies

Building a **dedicated 1,600m2 site** (expandable) to support demands until 2034 for **MET-N clinical and future commercial production, R&D, and clinical batches of MET-C products (MaaT034 & MaaT3X family)** (est. first step):

~10 000 treatable patients per year

MaaT013	9.000 pouches / year
MaaT033	1.300.000 capsules / year
MaaT03X	Up to 300.000 capsules / year

01

Fully integrated Manufacturing and development platform for a streamlined product development, scaleup and GMP process.

02

Ongoing CSR global strategy: reforestation program in France (GoGreen) and Cap Vert pour la forêt program, etc.

03

Option to construct an additional building to double production capabilities.

Partnership with Skyepharma

Status

Production started since September 2023

Key Takeaways

CORPORATE
PRESENTATION

Meaningful milestones in both the near and long term

2024

MaaT013 (pooled enema)

GvHD | EAP long term follow-up EBMT24
GvHD | ARES P3 GI-ORR mid-24
IO Mela. | PICASSO P2a Results H2.24/H1.25

MaaT033 (pooled capsule)

HSCT | PHOEBUS P2b Safety Interim H2
ALS | IASO P1b Results H2

MaaT034 (co-cultured capsule)

Candidate Selection
1st Clinical Batch Manufactured

2025

MaaT013 (pooled enema)

GvHD | Final Results (OS)
GvHD | Commercial launch

MaaT033 (pooled capsule)

HSCT | PHOEBUS Results

MaaT034 (co-cultured capsule)

Solid Tumors IO | Target FIH 25
Solid Tumors IO | P1b Results

2026 +

MaaT03X (co-cult. ind.-spec. caps)

Undisclosed | Next Steps

A Step-by-Step Increasing Value Creation Strategy Backed by Leading Capabilities in Microbiome Drug-Candidate Production

Adressable Patients

Creation Value

Time:

Event:

1st Ind:

Market size:

MITS Skyepharma

MET-N

MaaT013

Pooled enema

- Mid-2024
- P3 GI-ORR
- aGvHD
- ~3 000

MaaT033

Pooled capsule

- H2.2024
- P2b DSMB
- allo-HSCT
- ~11 000

MET-C

MaaT034

Co-cultured caps.
Synthetic eubiotic microbiota

- 2024
- Candidate selection & PICASSO PoC Results
- ICI combo in solid tumor
- >500 000

MaaT03X

Co-cultured capsule
Indication specific

- 2025+
- New program reveal
- Multiple Indications
- Multiple Markets

The largest dedicated Microbiome Ecosystem Therapies production facility in Europe, foundation of MaaT Pharma's ability to scale and produce drug candidates in a cGMP environment

Corporate Social Responsibility

MaaT Pharma aims to become the source of Microbiome excellence providing patients with safe and innovative medicines. The Company develops products from sustainable biological matters, driving optimal impact of Microbiome.

Patients are our priority. We are committed to our patients and to the protection of human health by respecting environmental protection, respecting our employees and ensuring good governance practices. Our way of working every day is driven by the 4 guidelines below:

- → Innovate and raise awareness to **deliver better care,**
- → Contribute to employees-growth within a **people-oriented ecosystem,**
- → Place **ethics and transparency** at the core of the Company's strategy,
- → Control and measure our **impact on the environment.**

2022 CSR indicators

Social

37 y-o is the average age of permanent employees

14 permanent employees under 30 years old (as of 12/31/22)

77% Training Plan Completion Rate

Environment

1959 tCO2e Carbon footprint

342 kWh /Employee Energy consumption per employees on site

Societal

83% of operating expenses related to R&D as a proportion of total operating expenses

108 public interventions to increase awareness on microbiome

Governance

43% of women in the Board of directors

83% of women in the Executive team

50% of women in the top 10 earners

Thank you

invest@maat-pharma.com